Remarks

Claims 1-55 are pending in the application. Claims 4, 17, and 23-29 have been canceled.

§ 103(a) Rejections

Claims 1-3, 5-11, 13, 15-16, 18-22, 30-52 have been rejected under 35 USC § 103(a) as being unpatentable over Chen et al (US 5,733,570) in view of Hoey (US 4,146,027). The Examiner cites Chen for disclosure of an absorbent dressing with multilayer construction having absorbency greater than 300 percent. The Examiner acknowledges that Chen does not disclose (1) a second non-disintegrating layer positioned between the first absorbent layer and the wound, (2) the thicknesses of the layers, and (3) neutralization of the carboxylic acid monomer with a base. The Examiner relies on Hoey for the lack of disclosure in Chen.

Applicants respectfully traverse the rejection. As previously argued, Chen teaches that the absorbent layers be produced to maximize absorbency while maintaining sufficient cohesive strength to resist disintegrating after absorption within each layer. Chen thus suggests the construction of multiple layers wherein each layer maximizes absorption while maintaining integrity.

The Hoey reference does not cure the deficiencies of Chen for the following reasons. As an initial matter, there is no suggestion or motivation contained in either the Hoey or the Chen reference to combine the references, and the Examiner has not identified any such motivation or suggestion. Also, even were the combinations proper, each of the combined references fails to suggest the present claims.

The Hoey reference teaches a wound dressing having a top layer of foam bonded to either a woven, knit or nonwoven absorbent layer (col. 1, lines 10-16). Hoey does **not** teach or refer to the second (foam) layer as absorbent. According to Hoey, only the woven, knit or nonwoven layer is absorbent. The foam does not absorb liquid or wound exudate into the foam material, but rather conducts the liquid to the absorbent layer through the interstices by capillary action (see Col. 1, lines 19-21).
While the foam is porous and is permeable to liquids, while the foam can be wet with water, while the foam may trap some liquid in its cells by capillary action, the foam does not **absorb** liquid.

Moreover, the wound dressing created with the foam layer disclosed in Hoey would be opaque. Thus, the Chen reference teaching that the hydrogels are transparent would be destroyed if the foam layer of Hoey was combined with the hydrogel layer in Chen. (See Claim 18 of Applicant's Specification).

Hoey also fails to disclose a non-disintergrating layer in contact with the first absorbent layer. Hoey teaches that when the foam layer becomes entrained during scab formation, the foam will separate away from the remainder of the composite when the dressing is removed from the foam. (col. 1 lines 21-25) Thus, Hoey's foam dressing is designed to disintegrate in the wound, or at least disintegrate during removal from the wound.

Hoey teaches the use of small amounts of carboxylic acid containing monomers to toughen or harden the copolymer which is beneficial in promoting adhesion and in some cases providing thermosettability (col. 4 line 67 – col. 5 line 1.), **not** to improve fluid absorption. Rather, Hoey suggests that "excessive amounts of some of these monomers contribute to hydrophilicity of the polymer (col. 5 line 3-5)," which suggests that excessive hydrophilicity of the polymer is undesirable.

In addition, Hoey fails to disclose the addition of base, e.g., ammonia or ammonium hydroxide, to neutralize carboxylic acid in order to improve water absorption. Rather, Hoey teaches that the ammonia is added to stabilize the foam (col. 2, line 50 – line 57) and as a thickener (col. 5 line 8-13). According to Example 1, Hoey teaches amounts of base such as ammonium hydroxide that exceed the amount necessary to neutralize 100% of the carboxylic acid present. [1]

Finally, Hoey provides no guidance on layer thicknesses. Hoey teaches that the woven absorbent layer is one continuous piece of from 1 to 12 or more layers thick (col. 1, line 49 – 50), however Hoey does not specify the thickness of the absorbent layer.

[1] Hoey teaches to use 71 parts by weight of a 46% dispersion of a copolymer containing 66 parts of ethyl acrylate, 32.7 parts of methyl methacrylate and 1.3 parts of methacrylic acid. In Example 1, 0.42 g methacrylic acid is in 100 g of the formulation. The molecular weight of methacrylic acid is 86.09 g /mole. The total moles of methacrylic acid in 71 parts by weight of a 46% dispersion of the above mentioned copolymer is 0.005 moles methacrylic acid. Hoey also teaches in Example 1 to use 1.3 parts by weight of 28% ammonium hydroxide. In Example 1, 0.364 g of ammonium hydroxide is in 100 g of the formulation. The molecular weight of ammonium hydroxide is 35.05 g/mole. The total moles of ammonium hydroxide in 1.3 parts by weight of 28% ammonium hydroxide is 0.01 moles ammonium hydroxide. Therefore, 200% of the methacrylic acid is hypothetically neutralized in Hoey.

Claims 12 has additionally been rejected under 35 USC § 103(a) as being unpatentable over Chen et al in view of Dahmen (US 6,060,557). The Examiner cites Dahmen for the use of n-vinyl acetamide in combination with Chen. Dahmen teaches a partially-neutralized polymer composition containing n-vinyl acetamide that is ground to form a fine powder. Combining Dahmen with Chen would destroy the transparency required of the hydrogel in Chen.

Thus, none of the references can be combined (and are not properly combined) to render the present claims obvious. Applicants submit, therefore, that the rejected claims are patentable under 35 U.S.C. § 103(a).

Conclusion

In view of the arguments offered herein, Applicants respectfully submit that the Examiner's grounds for objection and rejection are overcome and respectfully solicit reconsideration and withdrawal of the rejections and allowance of the application.

Respectfully submitted,

By Nancy M. Lambert
Nancy M. Lambert

Registration Number	Telephone Number
44,856	(651) 733-2180
Date	
November 14, 2003	

55838US002 Response 11-14-03
Office of Intellectual Property Counsel
3M Innovative Properties Company
P.O. Box 33427
St. Paul, Minnesota 55133-3427
Facsimile: (651) 736-3833